



Trigonometry (40335)

2011-2012

Instructor Information

Name: Mr. Tim Kuehl, BS, MS

Office Location: 1321 (Inside room 1323)

Office Hours: 1st and 8th hour, after school until 3:15 (in fall) or 3:45 (non-fall) or by appointment

Email: tim.kuehl@kmlhs.org or tkuehl@wi.rr.com

Office Phone: 262-677-4051 x1321

Home Phone: 262-536-4368

Web Page: www.mathdragon.net

General Course Information

Title: Trigonometry (40335)

Department: Mathematics

Credits: .5 credit

Length: 1 semester

Elective or Required: Elective

Grade Level: 10-12

Semester: 2nd semester

Meeting Schedule: 4th hour

Prerequisites: Advanced Algebra and approval of the math department. Note: May be taken concurrently with Advanced Algebra with approval of the math department.

Course Description: This course is intended for students who need an intense study of the mathematics of trigonometry for college entry. Reviewing and stretching beyond basic right triangle trigonometry, this course will cover topics such as radian and degree measure, the inverse trig functions, the graphs of the trigonometric functions, trigonometric applications of the unit circle, solving trigonometric equations, polar coordinates and graphs, memorizing and proving trigonometric identities, the Law of Sines and Cosines, and polar graphs. Trigonometry may NOT be taken in the same year as Pre-Calculus. Trigonometry is a college-prep course.

Parent-Instructor Communication

The instructor will strive to contact the parents when he observes tendencies including – but not limited to – the following: lack of academic effort, poor and failing grades, and classroom misconduct. Parents are urged to communicate with the instructor when they have questions and concerns. Contact by email is preferred by the instructor. The instructor will make every effort to respond to voice mails and emails in a timely manner.

Course Details

Course Purpose: Trigonometry is a course in which students will review and expand upon their knowledge of Trigonometry from Geometry and prepare themselves for higher-level math and science.

Course Goals:

This course will:

- Allow students to display their God-given talents in advanced mathematics by applying Trigonometry to various real-world and mathematical situations in service to Him.
- Allow students to prepare for college-level math and science courses and refine their current math skills

Course Outcomes:

The students will:

- Memorize, identify, and apply the properties of the six Trigonometric functions, their inverses, and their graphs and transformed graphs

- Memorize and apply the exact values of the six trigonometric functions for 0, 30, 45, 60, 90, 180, and 270 degrees and their radian counterparts
- Memorize and apply the reciprocal, ratio, Pythagorean, even/odd, co-function, double angle, half angle, sum, and difference trigonometric identities
- Memorize and solve problems applying the Law of Sines, Law of Cosines, and trigonometric area formulas, and Hero's formula
- Solve trigonometric equations by hand and graphically

Student Materials:

- Text: *Trigonometry 6th ed. (Thompson Brooks Cole, 2008)*
- Pencil/Pen
- TI-83/84 type graphics calculator
- Three-ring binder (at least 1" width) with dividers
- Notebook
- Student Planner

Instructional Strategies

Each day will begin with an opening activity which students are expected to quietly work on until class begins. These activities include (but are not limited to): correction of homework due, a surprise quiz, or a group or individual investigation. Most class time will be spent in large or small group discussion of the topics presented on the section notes. Homework will be corrected inside or outside of class, with discussion of problems in class. Occasionally there will be exit quizzes.

Assignments & Assessments

Homework will be assigned from problems in the textbook or worksheets may be given. A "weekly" homework assignment will also be given on the first day of the school week due the following week. A quiz covering the material from the homework will be given after the homework has been discussed. Projects will be assigned for most units which will have you apply the concepts learned in those units. Tests will be given every unit as well. There is no cumulative semester exam.

Grading

KML Standard Grading Scale:

95-100%	A	87-90%	B	79-82%	C	72-74%	D
93-94%	A-	85-86%	B-	77-78%	C-	70-71%	D-
91-92%	B+	83-84%	C+	75-76%	D+	69-71%	F

Grading Policy:

The final semester grade in this course is calculated based on all of the assignments given over the course of the semester using the percentage breakdown: Homework (10%), Quizzes (20%), Projects (30%), and Tests (40%). For this reason, the semester grade shown in PowerSchool is a better indicator of student achievement during the course than the quarter grade. Class participation will be considered in grade adjustments at the end of each quarter.

Grading Procedures: Grades will be entered into PowerSchool regularly. If grades are not updated during the school week, they will be updated by Sunday evening. Homework is graded on a five point scale depending on work shown, timeliness, organization, completeness, and number correct. Quizzes and tests are graded on a "points received/points possible" percentage. Projects will either be graded by points or given a letter grade based on a rubric.

Make Up Work: Homework grades cannot be made up unless you were absent. Homework, quizzes and tests are to be made up within the number of days you have been absent. If you were only ill for the one day or were absent due to a preplan, you are expected to make up a quiz/test the day you return (the next day). Projects are due on their due date or the day you return from illness.

Late and Incomplete Work: You will receive a zero if your homework is not done on the day due. It is advised that you still do the homework for practice for quizzes and tests. Habitually coming to class with your homework incomplete or failure to make up a quiz, test, or project within the grace period given will result in an academic detention and a reduction in grade (usually 5% per day late).

Major Assignments: Failure to complete all major assignments in a course results in an automatic “F” for the course. Major assignments include all tests and projects for this class.

Classroom Procedures

Attendance: Students are expected to attend all scheduled classes in accordance with the attendance policy as outlined in the KML Student Handbook. In the event of an absence, it is the responsibility of the student to follow all necessary steps as outlined in the handbook and this syllabus.

Tardiness: Students are expected to be inside the door of the classroom when the class bell rings in accordance with the tardiness policy as outlined in the KML Student Handbook. The instructor will notify students if they have been marked tardy. Habitual failure to bring materials required for class will also result in a tardy being issued as it demonstrates you are not ready for class in a timely manner.

Academic Dishonesty: KML expects all students will honor the principles of honesty and truth as taught in God’s Word. This means that all academic work will be done by the student to whom it was assigned without unauthorized aid of any kind. Research sources must be cited fully and accurately. The school reserves the right to use academic screening methods to check the authenticity of student work. Refer to the KML Student Handbook for additional guidelines concerning penalties for cheating.

Behavior: Students are expected to respect the instructor, fellow students, and the learning environment at all times. Discussion of topics should be done in an orderly atmosphere with only one person talking at a time and with permission. Students are expected to remain focused on the topic being discussed. Disruptions to the learning atmosphere will not be tolerated, with adequate warnings being given before a detention is issued.

Students are allowed to leave their desks to turn in quizzes and tests when done. This should be done without visiting other students. For all other reasons (to sharpen a pencil, to go to the bathroom, to work with another student, etc.) permission should be requested first. Students must remain in their desks until the bell rings and may not stand by the door or in the hallway.

You are allowed to have games on your calculator, but may not play them while class is being conducted. You may play games only during “downtime” in class.

Daily Routine:

- Enter class and begin working on the opening activity
- Questions taken on homework due (if any)
- Discussion on the current lesson, lesson investigations, activities, and class practice
- Lesson wrap-up

Academic Progress: It is the intent of KML that all students enrolled in this course should complete it successfully. The instructor will strive diligently to help students to succeed. When it becomes apparent to the instructor that a student has placed himself/herself in jeopardy of meeting the minimum requirements of the course, the instructor may begin the procedure outlined in the Academic Progress Policy of the KML Student Handbook in order to remedy the situation.

Course Help: If you are struggling in this class, DO NOT let it linger! As is typical with math, future concepts depend on the sound understanding of previous concepts, so do not fall behind! There are many avenues of assistance for this class listed at the class website, but your primary source should be Mr. Kuehl.

Other Information:

Representing Your Savior by Using Your Talents: By virtue of being in this class, you have shown yourself to be blessed by God with mathematical ability. God asks us to use our gifts and talents to serve and represent Him. As such, you will be asked to represent your Savior and your school in various math competitions during the year. Participation in these meets does not automatically make you a member of the KML Math Team. You must meet the other criteria of being a team member to be considered a member of the math team. Participation in a math meet will earn you 10 free quiz points (as long as you score a point and work faithfully) and award winning participation in a math meet will be considered for grade adjustment at the end of a quarter.

Another way you can serve God with your talents is to use your abilities to help others by becoming a peer tutor. I will either omit the lowest test grade or give a partial grade raise for any student that is a peer tutor during that semester. In order to take advantage of this, you must sign-up to be a peer tutor with Mrs. Boeldt at the beginning of the semester. The peer tutoring can be done during the school day or during ELP.

Homework:

You should spend 20 to 40 minutes a night on work for this class. When homework is assigned, you are usually given two days to complete it. Start on the homework the first day to keep the concepts fresh in your mind and to make sure you understand the material. Seek assistance if you find yourself struggling. Complete the homework the next day. Keep in mind that homework is mostly graded on work shown, timeliness, and organization, and to a lesser extent number correct and completeness. Homework is for your benefit – to allow you to practice under non-threatening conditions. The problems assigned have been carefully selected and completed by the instructor himself to offer you practice on problems that should help you solidify your skills and prepare you for assessment on quizzes, tests, and projects. It is beneficial to complete every problem, but not an absolute necessity. What is necessary for you to complete should become obvious to you as you progress through the work and the class. If you need to skip problems due to time, skip problems that you find easy, not the ones you find difficult. The difficult problems are often the more important ones. Go back and complete the problems you skipped when you have time later on.

If there is no homework assigned, or you are done with it, there are still plenty of things to do. You can:

- review and clarify your section notes
- read the past, current, or future section in the textbook
- review for the quiz or test
- work on the unit or semester project

If you need extra practice on a section you can:

- use the odd problems from the section or chapter review (the answers are in the back of the text)
- make corrections on your homework or quizzes
- go to the textbook's website for online tutoring and practice tests

Calculators:

- be sure you have your name engraved on it
- don't use it as a crutch to do simple calculations you should do in your head
- store the calculator safely in your locker - don't leave it unattended on a table or in your book bag
- the school reserves the right to delete offensive and unnecessary programs from your calculator
- no password programs are allowed on your calculator

Website:

- The class website is available through the school's website or www.mathdragon.net
- Assignments that are posted on the small white board are also posted on the class website
- Hand-outs in class can be downloaded at the class website, including completed section notes
- Graph paper is in the black trays in the back of the room and is available on the class website
- A link to the textbook's web site is on the class website
- Links for help and tutoring and other useful sites are on the class website